

504

BRITTLENESS TEST FOR HI-VOLUME GLASS FIBER FILTERS

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BRITTLENESS TEST FOR HI-VOLUME GLASS FIBER FILTERS

PURPOSE

The purpose of brittleness tests for Hi-Volume filters (8" x 10") is to determine if discontinuities will appear when the filters are folded and unfolded during field use.

EQUIPMENT

Filters
Light Box (An X-ray viewer)
Roller (Roll of packing tape)

PROCEDURE

1. The filter is folded lengthwise (after folding, it becomes 4" x 10") so that the rough side faces inward.
2. Moderate pressure is applied to the roller in order to crease the filter along the length of the fold.
3. The filter is unfolded and placed on a light box to detect cracks * or splits ** along the fold.

* Crack: A slight flaw in the overall consistency of the filter that allows more light to pass through than through the rest of the filter.

** Split: A severance, a breaking apart of the filter halves.

RESULTS

The length of any crack or split is reported to the nearest $\frac{1}{2}$ inch.

ACCEPTANCE CRITERIA

Crack:

- a. Less than 1 inch --- acceptable
- b. 1 to 2 inches --- defective
- c. Greater than 2 inches --- reject

Split:

- a. By its nature, is considered a reject.